

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.967
A2C78

VOL. 7 No. 36

SEPTEMBER 6, 1957

EXTRA COPY

Cooperative
ECONOMIC INSECT
REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Plant Pest Survey Section
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CORN EARWORM very heavy corn in eastern Maryland and areas of Louisiana. Serious in south and central areas of Utah. (p. 721).

HESSIAN FLY continues relatively low in Missouri but may have damage in some counties next year. (p. 721).

WHEAT STEM MAGGOTS more abundant than for several years in areas of Oregon. (p. 722).

SPOTTED ALFALFA APHID abundant in some Utah counties, increasing in Nebraska, Missouri and central Oklahoma. Appearing in Indiana. (p. 723). VELVETBEAN CATERPILLAR heavy on soybeans in eastern South Carolina, southern Alabama and several Louisiana parishes. (p. 724).

ORCHARD MITES threat continues in Orleans, Indiana, area; heavy populations in Montrose and Delta Counties, Colorado. (p. 725).

SIX-SPOTTED LEAFHOPPER has been unusually abundant in Michigan and Wisconsin. (p. 727).

BOLLWORMS continue potential threat in Arizona. Counts high in some Louisiana areas. (p. 727). COTTON LEAFWORMS still active in several States. (p. 728).

RED-HEADED PINE SAWFLY unusually destructive in young pines in areas of Texas, Alabama, Mississippi and Florida. (p. 728).

CHIGGERS caused heavy damage on turkeys in Rockingham County, Virginia. Annoying to humans in Cochise and Pima Counties, Arizona. (p. 730).

A MITE not known to occur in the United States. (p. 733).

CORRECTIONS (p. 731).

ADDITIONAL NOTES (p. 731).

WEATHER BUREAU 30-DAY OUTLOOK, SEPTEMBER 1957

The Weather Bureau's 30-day outlook for September calls for temperatures to average below normal over most areas west of the Continental Divide as well as along the extreme northern border of the country, and in the far Southeast. Above normal temperatures are anticipated over the remainder of the nation and along the California Coast. Precipitation is predicted to be above normal in the Western Mountain States, the Northern and Central Plains, the Great Lakes Region, and also in the extreme Southeast. Subnormal rainfall is expected over a broad band extending from Texas northeastward through the Ohio Valley. In unspecified areas near normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING SEPTEMBER 2

Relatively cool, generally dry weather prevailed over the Far West. Warm, sultry conditions existed from the Central Plains southward and eastward and unseasonably cool day-time temperatures were experienced along the Northern Border with daily rains falling in the North Central portions. These conditions resulted from a weather situation that existed for the major portion of the week and which was characterized by a stationary front extending out of a low pressure trough in the Southwest and orientated in an east-west direction from the Great Basin through the Lake Regions to the Middle-Atlantic Coast. Near the end of the period cyclonic circulation developed along the front in the Plains States and moved northeastward to combine with another low pressure cell and developed into an intense storm area now covering most of the Northeast. Parts of the Southwest, Gulf Coast, all of Florida and large portion of the Mid-west received weekly precipitation amounts that were moderate to heavy. While in California, western Oregon, Nevada, south central Texas and the area surrounding the southern Appalachian region, little or no precipitation fell. Fire danger in forests and ranges of Idaho remain high to severe while average conditions exist throughout California with a few small fires reported in some sections. Rainfall along the Atlantic Coast except for a few isolated areas was not significant and soil moisture is reported inadequate in sections of Georgia, South Carolina, Tennessee, the Virginias and lower New England with West Virginia indicating that water is now being hauled to many farms.

On Wednesday temperature minima reached near freezing in the New York mountain valleys and a few degrees below 32° in the Adirondacks. Similar readings were noted in Vermont on the same date. Below freezing temperatures were also observed in the California mountain areas but no damage to crops was reported. Temperatures in general averaged below normal from the Divide westward. To the east of the Divide they were below normal in the extreme northern tier of States. Near to slightly below along the Coast, and above elsewhere.

Severe storm reports included a tornado with little damage at Aberdeen, South Dakota on Sunday; hail and electrical storm with considerable damage to grain in southeastern Idaho and a thunderstorm at Blackstone Airport, Virginia accompanied by one-half inch hail and wind with gusts to 90 mph. (Summary Supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - WISCONSIN - Populations higher than expected in several areas. Feeding has been checked by cooler weather and precipitation. (Wis. Ins. Surv.). IDAHO - In alfalfa fields, 2-10 per sweep, Franklin and Powers Counties. (Waters). MICHIGAN - Late in acquiring wings, particularly Melanoplus femur-rubrum, in the Cadillac, Gaylord and Cheboygan area. (Hutson). UTAH - Local damage in fields and gardens, Uintah County. Damaging gardens at Duchesne. (Knowlton et al.). OKLAHOMA - Non-economic to very light, southwestern counties. Range survey shows non-economic numbers, Comanche, Cotton and Tillman Counties. (Burke, Pela). Non-economic in range areas, southern and south central counties. Light ragging, margin of sorghums, some southern counties. (Coppock).

CHINCH BUGS - ALABAMA - Heavy infestations of Blissus leucopterus insularis in lawns, Clarke and Monroe Counties. (Lemons). OKLAHOMA - Common to very abundant in sorghum fields, Bryan County. Up to thousands per plant, some fields. Shrunk kernels suggest damage. (Coppock). Light infestation on sorghum, Marshall County. (Bower).

CORN EARWORM (Heliothis zea) - MARYLAND - Sweet corn infestation on Eastern Shore very heavy, 29 fields averaging 65 percent infestation. (U. Md., Ent. Dept.). NORTH CAROLINA - Local infestation of soybeans, Camden County. (Tuten). Reported on peanuts, Martin County. (Scott, Farrier). VIRGINIA - Damaging soybean some fields, Northumberland County. (Saville). Damaging few soybean pods present and averaged 1 per 3-4 heads of milo, Gloucester County. (Amos). Severe damage to developing soybean pods, Surry County, Aug. 23. (Rowell). SOUTH CAROLINA - Moderate on soybeans in Charleston area. (Cuthbert). ILLINOIS - Ear infestations ranged 0-60 percent. Some fields with 3 larvae per ear. (Ill. Ins. Surv.). ALABAMA - Large number of adults in fields of young soybeans, Baldwin County. (Grimes). LOUISIANA - Very heavy in corn and grain sorghum, Tensas, Madison, Richland and Claiborne Parishes. (Oliver). WISCONSIN - Continue to be caught in blacklight traps, no marked increase in flight activity. Retarded first-brood larvae in small numbers in unharvested canning sweet corn. (Wis. Ins. Surv.). MISSOURI - Over most of State no great damage to sorghum heads. Severe damage in sections of extreme southeast. (Kyd, Thomas). OKLAHOMA - Common in late corn, southeastern counties. Building up in alfalfa, southern area. (Bower, Coppock). Attacking grain sorghum heads, Kiowa County. (Pela). UTAH - Damaged 90 percent of early sweet corn in Duchesne County. Serious generally, Uintah County, and south and central areas of State. Much above average this season, but lighter recently in some localities. (Knowlton et al.). COLORADO - Field corn 100 percent infested in Arkansas Valley and western slope. (Exp. Sta.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - LOUISIANA - Taken from corn in Claiborne Parish for first time. This makes total of five parishes infested. (Oliver).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - CALIFORNIA - Heavy on kafir-corn in Blythe, Riverside County. (Cal. Coop. Rept.). OKLAHOMA - Considerable damage to nuts and underground stems of peanuts, Stratford area. Some plants killed. (Coppock).

HESSIAN FLY (Phytophaga destructor) - MISSOURI - Summer survey completed. Numbers still relatively low over State, although in Lincoln, Franklin, Perry, Cape Girardeau and Scott Counties, counts high enough to indicate possibility of damage next year. (Kyd, Thomas).

MORMON CRICKET (Anabrus simplex) - NEBRASKA - Occasional cricket observed in Keith and Arthur Counties. (Andersen, Bell, Aug. 23).

SORGHUM WEBWORM (Celama sorghiella) - ARKANSAS - Continues to infest heads of sorghum, many areas. (Barnes et al.).

FALL ARMYWORM (Laphygma frugiperda) - SOUTH CAROLINA - Present most hegarri plantings in Charleston area, causing serious injury in some. (Cuthbert). VIRGINIA - Present in some soybean fields, Northumberland County. (Saville). ILLINOIS - Field corn in whorl stage 0-92 percent infested. Corn in fresh silk 4-50 percent infested and corn in dry silk 0-20 percent infested. Egg counts of 0-3 per 25 plants on late-maturing corn. All stages in most fields. (Ill. Ins. Surv.). ALABAMA - Medium to heavy infestation in buds of grain sorghum, Geneva County. (Grimes). MARYLAND - Active in late corn fields. (U. Md., Ent. Dept.). MISSOURI - Only slight damage to sorghum heads over most of State. Severe damage only in extreme southeast. (Kyd, Thomas). LOUISIANA - Remain in young corn and alfalfa throughout State. Considerable corn damage where control was not applied. (Oliver). OKLAHOMA - Damage continues to late-planted sorghum and corn in most sections. Numerous in whorl-stage broomcorn, Garvin County. (Coppock). One field late corn abandoned because of damage, Bryan County. (Bower). COLORADO - Infestations have reached 100 percent in field corn in Arkansas Valley and western slope. (Exp. Sta.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEBRASKA - Infestation 40-100 percent in 5 northeast counties. Moth flight heavy at North Platte; a single days catch of 524. (Pruess). WISCONSIN - Mostly in last larval stage, Dodge, Fond du Lac, Sheboygan and Winnebago Counties. Adults emerged for second brood, Dodge County. (Wis. Ins. Surv.). OHIO - Egg deposition for second generation on decline. Low fall population expected. (C. R. Neiswander).

VARIEGATED CUTWORM (Peridroma margaritosa) - NEBRASKA - Appearing again, central Platte Valley area. Some alfalfa fields average 4 per square foot. (Pruess).

WHEAT STEM MAGGOTS - OREGON - Meromyza pratorum and M. saltatrix more abundant than for past 6-7 years. Common in Jefferson and Deschutes Counties. Infestation reported in Yamhill County. Determinations by C. W. Sabrosky. (Every).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Twenty to 70 per 100 sweeps of rice, St. Landry, Acadia, Vermillion and Jefferson Davis Parishes. (Oliver).

GRASS LOOPERS (Mocis spp.) - FLORIDA - Some damage to pastures and cover crops. Second generation beginning to pupate. (H. Denmark).

CORN LEAF APHID (Rhopalosiphum maidis) - WISCONSIN - Populations have dissipated and major migration of winged adults completed. (Wis. Ins. Surv.). OHIO - Declining as corn reached maturity. Damage severe in some fields. (C. R. Neiswander). MARYLAND - Conspicuous in spots. (U. Md., Ent. Dept.). LOUISIANA - Heavy on corn and sorghum, Madison, Tensas and Richland Parishes. (Oliver).

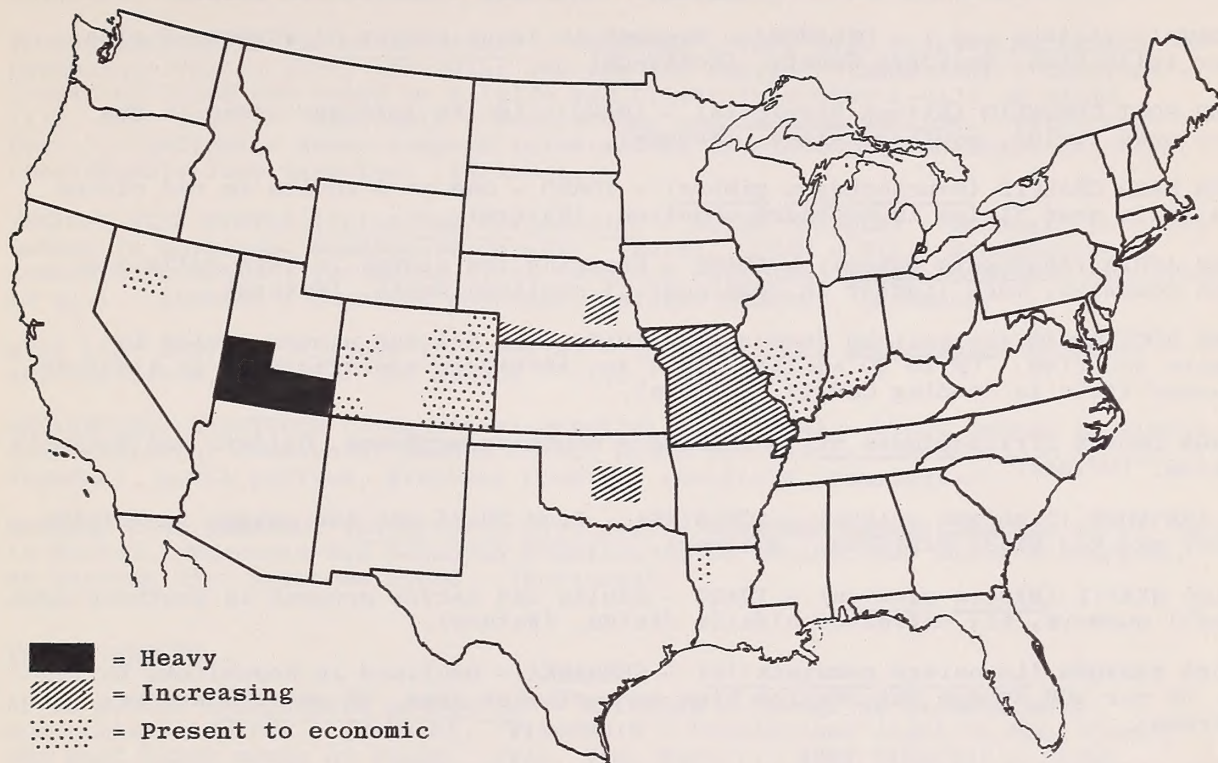
PEA APHID (Macrosiphum pisi) - UTAH - Building up and sometimes damaging, Duchesne, Sanpete, Salt Lake and Millard Counties. Damaging many second-crop alfalfa seed fields, Millard County. (Knowlton et al.). COLORADO - Populations increasing in Montrose and Otero Counties. (Exp. Sta.).

GREEN CLOVERWORM (Plathypena scabra) - NEBRASKA - Soybean field populations decreased in northeast due to pupation and parasitism averaging 2.6 larvae per 10 plants. (Andersen). ILLINOIS - On soybeans in southern-half of State, 0-24 per 100 sweeps. Many diseased larvae. In southern-half of State, 0-0.2 per sweep on clover and alfalfa. (Ill. Ins. Surv.).

A LEAF MINER - UTAH - Serious damage to alfalfa, particularly in seed fields, Millard County. Sometimes 60-80 percent of leaves conspicuously mined. (Knowlton et al.).

GARDEN FLEAHOPPER (Halticus bracteatus) - ILLINOIS - In southern-half of State, 0-7 per sweep on clover and alfalfa. (Ill. Ins. Surv.).

Spotted Alfalfa Aphid Situation as Reported - August 30



SPOTTED ALFALFA APHID (*Therioaphis* (*Pterocallidium*) *maculata*) - UTAH - Abundant in sections of Garfield, Millard, Beaver, Iron and Kane Counties. (Knowlton et al.). NEVADA - Very light in Lovelock area, Pershing County. (Bechtel, Lauderdale). Spotted, heavy infestation, one field south of Lovelock. (Burge, Sebbas, Aug. 23). NEBRASKA - Populations in Republican Valley building up, averaging 620 per 100 sweeps. Numbers increasing, 60-123 per 100 sweeps, in Boone, Antelope, Madison, Stanton, Pierce and Wayne Counties. (Andersen). ILLINOIS - From 1-300 per sweep in southern half of State. Heaviest in southwestern sections. (Ill. Ins. Surv.). MISSOURI - Populations beginning to build up during dry weather. (Kyd, Thomas). INDIANA - First specimens of year collected August 26-28 in 10 southern and southwestern counties, in Ohio and Wabash River Valleys. Infestation apparently coming from south, rather than west. First records for Crawford, Harrison and Floyd Counties. (Wilson). LOUISIANA - Very light populations in alfalfa Bossier and Red River Parishes. (Oliver). COLORADO - Predation may be holding populations in check. (Exp. Sta.). OKLAHOMA - Increasing in fields saved for seed, central counties. Up to 1500 per 10 sweeps, one field, Cleveland County. Predators numerous most fields. (Coppock).

PLANT BUGS - NEBRASKA - *Lygus lineolaris* counts in alfalfa fields left for seed 32-85 per 100 sweeps, in northeast, 80 per 100 sweeps in Republican Valley. *Adelphocoris lineolatus* 80 per 100 sweeps and *A. rapidus* 20 per 100 sweeps, Republican Valley area. (Andersen). INDIANA - *Adelphocoris lineolatus* populations remain high in southern areas. (Wilson).

LYGUS BUGS - IDAHO - In southern counties, 10-50 per sweep in untreated red clover and alfalfa fields. Early seed-set 95 percent destroyed in one alfalfa field at Rupert. (Waters). ARIZONA - Medium to heavy on alfalfa, most fields, Maricopa County. Adults 400-500 per 100 sweeps in one field. (Ariz. Coop. Rept.).

INDIANA - Populations remain high. Particularly heavy infestation first-instar nymphs, southern third of State. (Wilson).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Present in large number of soybean fields, Webber Falls area, Muskogee County. (Robinson).

CLOVER ROOT CURCULIO (Sitona hispidula) - IDAHO - Adults 1-14 per sweep in red clover seed fields, southern areas. (Waters).

CLOVER SEED CHALCID (Bruchophagus gibbus) - IDAHO - One to 5 adults in red clover and alfalfa seed fields in southern counties. (Waters).

CLOVER APHID (Anuraphis bakeri) - IDAHO - Damaging red clover in Twin Falls and Canyon Counties, much lighter in remainder of southern areas. (Waters).

CLOVER ROOT BORER (Hylastinus obscurus) - IDAHO - In all red clover fields in southern counties. Up to 20 adults, pupae and larvae in a single root in a second-crop-year field in Gooding County. (Waters).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - Damaging soybeans, Baldwin and Escambia Counties. (Grimes).

BEE T ARMYWORM (Laphygma exigua) - LOUISIANA - From 30-75 per 100 sweeps in alfalfa Bossier and Red River Parishes. (Oliver).

ALFALFA WEEVIL (Hypera postica) - IDAHO - Adults and larvae present in southern area in small numbers, all untreated alfalfa fields. (Waters).

ALFALFA WEBWORM (Loxostege commixtalis) - NEBRASKA - Declined in Republican Valley area, 20 per 100 sweeps but remains high in northeast area, 66 per 100 sweeps. (Andersen).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - NEBRASKA - Adult population high, larval counts 27 per 100 sweeps, northeast area. Larval counts 100 per 100 sweeps, Republican Valley area. (Andersen). COLORADO - In Mesa County, 100 larvae per 100 sweeps. Damage in new alfalfa plantings. (Exp. Sta.).

YELLOW-STRIPED ARMYWORMS (Prodenia sp.) - UTAH - Damage has greatly reduced alfalfa seed prospects, particularly in second-crop seed, large number of fields, Millard County. (Knowlton et al.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - SOUTH CAROLINA - Seriously damaging some plantings of soybeans in Charleston area. (Cuthbert). ALABAMA - Severely damaging soybeans, Baldwin and Escambia Counties. Damaging peanut foliage, Covington, Coffee, Escambia, Geneva, Henry and Houston Counties. (Grimes). LOUISIANA - Heavy populations in soybeans, Acadia, St. Landry, Lafayette, Pointe Coupee, Concordia and Tensas Parishes. Control obtained in most fields treated. (Oliver).

MITES - UTAH - Damaging corn in number of fields, Weber County. (Knowlton et al.). MARYLAND - Spider mite damage shows in a few soybean fields and mites are still active. (U. Md., Ent. Dept.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - NORTH CAROLINA - Locally severe on peanuts, Edgecombe County. (Scott, Farrier). NEBRASKA - Light to moderate infestation in Platte Valley area from York County west and in northeast areas. (Andersen, Pruess).

SUNFLOWER MOTH (Homoeosoma electellum) - NEVADA - Extensive damage, one field cultivated sunflowers south of Lovelock, Pershing County. (Bechtel, Lauderdale, Snyder).

SPITTLEBUGS - ILLINOIS - Adults now concentrating in legume seedings. (Ill. Ins. Surv.).

SOUTHERN GREEN STINK BUG (Nezara viridula) - ALABAMA - Damaging pods of young soybeans, Baldwin and Escambia Counties. (Grimes).

POTATO LEAFHOPPER (Empoasca fabae) - NEBRASKA - Very high population in Republican Valley area, averaging 380 per 100 sweeps. (Andersen). ILLINOIS - Counts of 0.1-2 per sweep on alfalfa and clover in southern-half of State. (Ill. Ins. Surv.). WISCONSIN - Populations continue to decline. (Wis. Ins. Surv.). INDIANA - Heavy nymphal infestations developing in southern counties. Considerable loss expected. (Wilson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Moderate to heavy damage to soybeans, Dorchester County. (Reid). UTAH - Still damaging in number of counties, including first recorded outbreak, Morgan County. (Knowlton et al.). ALABAMA - Damaging soybeans, Baldwin County. (Grimes).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ILLINOIS - On soybeans in southern half of State, 4-20 per 100 sweeps. (Ill. Ins. Surv.).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Light damage in almost all terminals, commercial peanut areas, Bryan and Garvin Counties. (Coppock). Abundant, north portion, Stephens County. (Hatfield, Pennington).

SOYBEAN CYST NEMATODE (Heterodera glycines) - OKLAHOMA - Symptom-type survey made in Haskell, Muskogee and Sequoyah Counties in 15 fields, 420 acres of soybeans. No soybean cyst nematode found. (Robinson).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Damage at minimum most commercial orchards. (Hutson). WISCONSIN - Populations light in Dane County and most other areas of State. (Wis. Ins. Surv.). WEST VIRGINIA - First infestation of season on apple at Gauley Bridge in Fayette County. (W. Va. Ins. Surv.).

CODLING MOTH (Carpocapsa pomonella) - INDIANA - Entries increasing as third-brood stragglers increase egg-laying in Orleans area. (Marshall). UTAH - Causing moderate to severe damage in home orchards in Duchesne, Millard, San Juan and Garfield Counties. (Knowlton). MICHIGAN - Adults continue to emerge 0-3 per day in cages in principal areas along Lake Michigan. Condition indicates possibility of increased damage should warm period develop in early September. (Hutson). WISCONSIN - Second-brood populations high in Dane County areas. (Wis. Ins. Surv.).

ORCHARD MITES - INDIANA - Threat as great as any time during current season at Orleans. Tetranychus spp. as high as 6.95 per leaf on apples. (Marshall). UTAH - Tetranychus spp. damaging many orchards in Salt Lake County (Knowlton) and T. mcdanieli damaging several apple orchards in Weber County. (Burningham). MICHIGAN - Populations of Tetranychus telarius and Panonychus ulmi decreasing in Benton Harbor - South Haven area. (Hutson). COLORADO - Populations heavy in apple orchards in Montrose and Delta Counties. Vasates cornutus increasing in Palisades area in Mesa County. (Exp. Sta.).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - OREGON - More common than usual. Damage greater particularly where dormant spray omitted. (Every).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - First record from Berkeley, Alameda County. Degree of infestation not recorded. (Cal. Coop. Rept.).

PEAR-SLUG (Caliroa cerasi) - COLORADO - Heavy damage in commercial plantings of sour cherries in Larimer County. (Exp. Sta.).

FLANNEL MOTHS - ALABAMA - Larvae defoliating apple trees in Morgan County. Infestation very light. (Grimes).

YELLOW-NECKED CATERPILLAR (Datana ministra) - CALIFORNIA - Medium on apple in Napa, Napa County. (Cal. Coop. Rept.).

WESTERN GRAPE LEAF SKELTONIZER (Harrisina brillians) - ARIZONA - Infestation on grape lightest in Graham and Greenlee Counties since outbreak several years ago. (Ariz. Coop. Rept.).

WALNUT CATERPILLAR (Datana integerrima) - NEBRASKA - Heavy population on walnut trees in northeast; leaves stripped some areas. (Andersen). FLORIDA - Feeding on hickory and pecans in several areas of south Florida. (Denmark). LOUISIANA - Continue to defoliate pecans over southern area; many completely defoliated. (Oliver).

TRUCK CROP INSECTS

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - NORTH CAROLINA - Damaging newly-emerged cucumbers locally in Duplin County. (Reid).

SQUASH VINE BORER (Melittia cucurbitae) - WISCONSIN - Loss nearly complete in Dane County where not treated. (Wis. Ins. Surv.).

SQUASH BUG (Anasa tristis) - RHODE ISLAND - Injury increasing, particularly on late-planted squash. (Stoner).

PICKLEWORM (Diaphania nitidalis) - SOUTH CAROLINA - Abundant on unprotected cucurbits in Charleston County. (Cuthbert). ARKANSAS - Attacking squash and cantaloups in northwest area. (Ralston).

MELONWORM (Diaphania hyalinata) - SOUTH CAROLINA - Moderate infestation on volunteer cucumbers in Charleston County. (Cuthbert).

LEAF MINERS - SOUTH CAROLINA - Requiring control in cucumber fields in Charleston County. (Cuthbert).

CABBAGEWORMS - SOUTH CAROLINA - Trichoplusia ni caused varying degrees of damage to collards, cabbage, tomatoes and cucumbers and Pieris rapae moderate on early-fall collards in Charleston County. (Cuthbert). VIRGINIA - Loopers appear heavier on broccoli than other truck crops in southeastern area. Growers treating regularly. (Hofmaster).

FLEA BEETLES - VIRGINIA - Especially numerous on young cole crops in southeastern area; particularly heavy on Eastern Shore. (Hofmaster). OREGON - Caused economic damage to commercial horseradish plantings in Columbia County; probably Phyllotreta sp. (Every). IDAHO - Phyllotreta pusilla extremely abundant on untreated crucifers in home gardens in Moscow area. Severe feeding damage occurring. (Manis). LOUISIANA - Chaetocnema confinis counts 200-400 per 100 sweeps in several sweetpotato fields in Acadia and St. Landry Parishes. (Oliver). COLORADO - Populations of Epitrix tuberis high on potatoes in Montrose County. (Exp. Sta.).

TOMATO RUSSET MITE (Vasates lycopersici) - UTAH - Serious in several tomato canning counties. (Knowlton et al.).

ONE-SPOT STINK BUG (Euschistus variolarius) - IDAHO - Extremely abundant on several hosts in gardens at Lenore and Peck. Damage very severe on tomatoes and bean pods. (Manis, Portman).

HORNWORMS (Protoparce spp.) - SOUTH CAROLINA - Light on tomatoes and eggplant in Charleston County. (Cuthbert).

POTATO APHIDS - MAINE - Populations of Aphis abbreviata, Macrosiphum solanifolii, Myzus persicae and M. solani showed slight to sharp drops on Aroostook Farm at Presque Isle, ranging in size from very small to large. Predators and parasites largely responsible for declines in untreated plantings. (Shands). COLORADO - Increasing populations on potatoes of concern in northeastern area and in San Luis Valley counties. (Exp. Sta.).

SOUTHERN ARMYWORM (Prodenia eridania) - LOUISIANA - Severely defoliating sweetpotatoes in Tensas, St. Landry, Acadia and Lafayette Parishes. (Oliver).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MICHIGAN - Has been unusually abundant with more than usual prevalence of aster yellows virus on susceptible crops. (Hutson). WISCONSIN - Exceptionally high populations this season caused extensive infections of aster yellows virus on lettuce, carrots and celery. Much lettuce acreage abandoned. Many infections 100 percent. Infection of carrots some Oconto County commercial acreage about 96 percent with estimated tonnage reduction of 50 percent. (Wis. Ins. Surv.).

ONION MAGGOT (Hylemya antiqua) - OREGON - Preliminary estimate of onion crop loss set at 20 percent. (Bond).

A MINT LOOPER (Rachiplusia ou) - MICHIGAN - Second generation reported from Wellston, Millburg and Stockbridge. Pupae annoying between veining on ripe cantaloup at Millburg. (Hutson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Emerging on green beans, light to moderate damage locally in Duplin County. (Reid).

LEAFHOPPERS (Empoasca sp.) - LOUISIANA - Counts 150-300 per 100 sweeps on sweetpotatoes in St. Landry and Acadia Parishes. (Oliver).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Due to rapidly increasing populations unprotected young bolls being punctured. (Cott. Lett.). TENNESSEE - Migration to northern counties continues, considerable damage. Controls applied in more-heavily infested fields. Boll damage in older cotton. Square infestation in infested fields was 45 percent. (Locke). MISSISSIPPI - All fields infested in delta counties but cotton maturing. Control good to excellent over area. (Merkl et al.). LOUISIANA - Twenty-seven percent infestation in 3700 acres of cotton in Concordia and Catahoula Parishes. Four fields in Bossier Parish had 18 percent infestation. Counts in Caddo Parish low. (Oliver). Average infestation in 79 treated fields in Madison Parish was 35 percent. (Smith et al.). ALABAMA - Spot checks in southern part of State show almost 100 percent infestation but only a few squares remain in tops of plants. (Grimes). ARKANSAS - Rapid emergence and migration continue in all areas. Overall average infestations increased slightly over last week while some infestations declined. (Barnes et al.). TEXAS - Light except in a few irrigated fields. (Turney, Martin, Aug. 23).

BOLLWORMS (Heliothis spp. et al.) - SOUTH CAROLINA - Increasing in several counties. Large bolls attacked in Allendale County. (Cott. Lett.). TENNESSEE - Considerable injury to older bolls. (Locke). MISSISSIPPI - Light egg deposition in more succulent fields. (Merkl et al.). LOUISIANA - Counts high in some fields, 4-12 larvae per 100 bolls, squares and terminals. Moth activity heavy. (Oliver). Average square infestation in 79 treated fields in Madison Parish was 1 percent. Average of 18 eggs and .9 larvae per 100 terminals in 10 fields. (Smith et al.). ARKANSAS - Declined some in most areas. (Barnes et al.). TEXAS - Continue to cause considerable damage, especially in south plains area. (Turney, Martin, Aug. 23). ARIZONA - Continue potential threat to cotton in most areas from Maricopa to Santa Cruz Counties. (Ariz. Coop. Rept.). OKLAHOMA - Occurring in all fields in eastern area. Up to 24 percent damage in one field in Bryan County but average much lower. (Coppock, Robinson).

PINK BOLLWORM (*Pectinophora gossypiella*) - TEXAS - Infestations remain light in coastal bend, upper coastal, southwest, central and west areas but increased in some fields. (Turney, Martin, Aug. 23). OKLAHOMA - Bloom inspection in 37 fields in 12 counties showed no pink bollworm. (Burke et al.).

CABBAGE LOOPERS - TEXAS - Continue to cause considerable damage, especially in south plains area. (Turney, Martin, Aug. 23). ARIZONA - *Trichoplusia ni* populations have been high on cotton from Maricopa to Santa Cruz Counties but disease decreasing population. Adults numerous in Tempe area and near Tucson. (Ariz. Coop. Rept.). LOUISIANA - Light in most fields of cotton. Moth activity heavy at light traps at Baton Rouge and Curtis. (Oliver).

LEAFWORMS - ALABAMA - Alabama argillacea defoliating cotton in Covington, Escambia and Geneva Counties. (Grimes). ARKANSAS - Continue present in some untreated fields in northeast area. (Barnes et al.). LOUISIANA - Most cotton in extreme southern area defoliated. Infestations range north to Arkansas. (Oliver). OKLAHOMA - Widespread in all cotton areas, light to very heavy. Considerable control in south central and southwestern counties. (Coppock et al.). Decreasing in eastern counties but controls continued. (Robinson). TEXAS - Continue to cause considerable damage, especially in south plains area. (Turney, Martin, Aug. 23). ARIZONA - *A. argillacea* occurring in several areas. (Ariz. Coop. Rept.).

APHIDS - TENNESSEE - Infestations general with control needed in many fields. Lint damage could result from honeydew. Predators numerous and effective in untreated fields. (Locke).

SPIDER MITES - ARKANSAS - Heavy enough to require treatment in some northeast areas. Light in many fields in all sections. (Barnes et al.). TENNESSEE - Becoming heavier but little damage expected. (Locke). MISSISSIPPI - Light to heavy along roads and ditch banks in delta counties. (Merkl et al.).

LYGUS BUGS - ARIZONA - Decreased in most cotton fields from Maricopa to Santa Cruz Counties, but remain fairly high in some fields. (Ariz. Coop. Rept.).

LEAFHOPPERS - ARIZONA - Some damage to cotton squares in Graham County; 25-30 adults per 100 sweeps. (Ariz. Coop. Rept.).

STINK BUGS - ARIZONA - Building up on cotton, some damage in Graham and Greenlee Counties. (Ariz. Coop. Rept.).

COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) - ARIZONA - Increasing on cotton in parts of Yuma, Pinal and Pima Counties. (Ariz. Coop. Rept.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

INTRODUCED PINE SAWFLY (*Diprion similis*) - MICHIGAN Larvae found at Elmira July 26 and at Battle Creek on August 23. (Hutson). WISCONSIN - Has not appeared in numbers anticipated in northwestern counties. (Wis. Ins. Surv.).

RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) - Unusually destructive in young plantation pines in southeast TEXAS, ALABAMA, MISSISSIPPI and west FLORIDA. Most damage spotty and localized. (Sou. For. Pest Rep., Aug. 19).

SAWFLIES - RHODE ISLAND - Numerous on white pine at Burrillville. (Deion, Mathewson).

BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) - Continued destructive following cutting operations throughout South. Heavy populations developed on Sam Houston National Forest in TEXAS and in floodwater and logging areas on the Kisatchie National Forest in LOUISIANA. (Sou. For. Pest Rep., Aug. 19).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Becoming increasingly active in Chesterfield, Hanover and Goochland Counties. Damage increasing in Princess Anne and Accomac Counties. (For. Pest Summ. July Rept.). During June and July populations increased sharply in MISSISSIPPI and ALABAMA. Numerous small infestations developed in southwest MISSISSIPPI and persistent control measures were necessary in ALABAMA National forests. In east TEXAS and LOUISIANA localized outbreaks brought under control. No indication of beetle in other Midsouth States. (Sou. For. Pest Rep., Aug. 19).

TURPENTINE BEETLES - VIRGINIA - Damage definitely on increase in pines in Prince Edward, Lunenburg and Nottoway Counties. Continued problem on Eastern Shore. (For. Pest Summ. July Rept.).

PALES WEEVIL (Hylobius pales) - VIRGINIA - Heavy local damage in Sussex, Amherst, and King and Queen Counties. (For. Pest Summ., July Rept.).

BAGWORMS - NORTH DAKOTA - Third infestation found in 1957 reported from Fargo area. (N. D. Ins. Rept.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - WASHINGTON - Damaging wide range of conifer ornamentals, especially pine at Pullman. (Telford).

SPRUCE BUD SCALE (Physokermes piceae) - RHODE ISLAND - Heavy infestation of adults on white spruce at Cranston. (Caroselli).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - ALABAMA - Heavily infesting Photinia. (Guyton). FLORIDA - Larvae averaged 1 per stem on 15 Photinia at Macclenny, Baker County. (Holder, July 1).

A PHALAEINID (Anomis erosa) - FLORIDA - Feeding on hibiscus throughout State. Adults at light traps. (H. Denmark).

FALL WEBWORM (Hyphantria cunea) - NEBRASKA - Continues active on poplar and elm in southeast and northeast areas. (Andersen). VIRGINIA - Heavy on host shade trees and untreated apple trees throughout State. (Amos). FLORIDA - Continues to infest fruit and forest trees throughout State. (H. Denmark). LOUISIANA - Heavily infesting pecan, persimmon, willow and cherry trees over State. (Oliver).

MIMOSA WEBWORM (Homadaula albizziae) - VIRGINIA - Severe on mimosa trees in Gate City and vicinity of Scott County. (Delp).

GYPSY MOTH (Porthetria dispar) - VIRGINIA - Seventy-five traps in operation in northern area and in northern section of Shenandoah National Park along Skyline Drive. No gypsy moth found. (For. Pest Summ., July Rept.).

CATALPA SPHINX (Ceratonia catalpae) - ALABAMA - Heavy population of larvae on catalpa trees in Butler County. Many larvae parasitized. (Arant).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - WISCONSIN - Larvae defoliated elm in Wisconsin Dells. (Wis. Ins. Surv.).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - RHODE ISLAND - Defoliation increasing on lower branches of oaks. (Stoner).

ELM LEAF BEETLE (Galerucella xanthomelaena) - IDAHO - Pupating in city park, Twin Falls. (Gibson). ALABAMA - Defoliating elm trees in Lee County. (Arant). RHODE ISLAND - Moderate infestation on elms at Cranston. (Caroselli).

JAPANESE BEETLE (Popillia japonica) - WISCONSIN - Third adult of season taken in trap at transport terminal in Milwaukee County. All beetles trapped at different locations near transportation centers but two were not far apart. (Wis. Ins. Surv.).

LOCUST BORER (Megacyllene robiniae) - OKLAHOMA - Killing locust trees near Valliant. Leafhoppers also present on foliage. (Goin).

A LEAF TIER (Nephopteryx uvinella) - MARYLAND - Larvae abundant on few sweetgum trees in Lexington Park, July 4, and University Park, July 9, and from Anne Arundel County. Det. H. W. Capps. (U. Md., Ent. Dept.).

A LEAF MINER - WASHINGTON - Severe blotching of leaves of silver poplar by possibly Phyllonorycter tremuloidiella at Pullman. (Telford).

APHIDS - NEVADA - Heavy populations with mites on Populus in Fallon, Churchill County. (Lauderdale, York; Aug. 23). CALIFORNIA - Myzocallis walshii heavy on scarlet oak in Sacramento County, Capitol Park. (Cal. Coop. Rept.). RHODE ISLAND - Moderate infestation of Myzocallis ulmifolii on elm at Cranston. (Caroselli).

MITES - WASHINGTON - Tetranychus telarius caused linden leaves to drop at Hooper. Rust mites building up where not controlled in Okanogan County. An eriophyid mite caused severe bronzing of lilac foliage at Pullman. (Telford, Law).

EUONYMUS SCALE (Unaspis euonymi) - MICHIGAN - Very apparent on euonymus and pachysandra at East Lansing. (Hutson). MARYLAND - Abundant now. (U. Md., Ent. Dept.).

INSECTS AFFECTING MAN AND ANIMALS

CHIGGERS - ARIZONA - Annoying to humans in Fort Huachuca area, Cochise County and at Madera Canyon, Santa Rita Mountains, Pima County. Pest prevalent only in years of good summer rainfall. (Ariz. Coop. Rept.). VIRGINIA - Eutrombicula alfreddugesi heavily damaged legs of turkeys being marketed in Rockingham County last of July. One farmer lost approximately 1,500 dollars because of lowering of grade. (Raffensperger).

CAT FLEA (Ctenocephalides felis) - ALABAMA - Houses in east central area heavily infested. (Arant).

BROWN-BANDED ROACH (Supella supellectilium) - UTAH - Heavy infestation in home at Vernal. Believed to be first record in Uintah Basin area. (Knowlton).

MOSQUITOES - UTAH - Continue troublesome much of Duchesne County; outbreaks unusually persistent this season. Serious in parts of Sanpete, Uintah and Garfield Counties. (Knowlton). NORTH CAROLINA - Aedes sollicitans general along coast; severe from Carteret County south. (Ashton).

SCREW-WORM (Callitroga hominivorax) - ALABAMA - Activity as far north as Morgan County. Only light infestations in east central area. Activity in southern area increasing. (Grimes).

TABANIDS - OKLAHOMA - Horse flies heavy in wooded areas of Ottawa, Craig and Mayes Counties. (Campbell).

STORED PRODUCTS INSECTS

A DERMESTID (Trogoderma sternale) - MISSISSIPPI - Collected in large numbers at State College. Det. W. H. Anderson. (Hutchins).

KHAPRA BEETLE (Trogoderma granarium) - CALIFORNIA - New infestation at Arvin, Kern County. (Cal. Coop. Rept.).

BENEFICIAL INSECTS

PREDATORS - NEBRASKA - Increasing in Republican Valley. Counts per 100 sweeps are: nabids - 280; Orius - 180; Geocoris - 40; lacewings - 60; and lady beetles - 80. (Andersen).

IDAHO - POPULATIONS OF Orius tristicolor range from 2-20 per sweep in alfalfa and red clover seed fields in southern area. Syrphid larvae averaged 2-3 per sweep in red clover north of American Falls; feeding on aphids. Lady beetle larvae and pupae averaged 20 per square foot in red clover field in Gooding County. (Waters).
ILLINOIS - Counts 0-0.4 per sweep on clover and alfalfa in southern half of State. (Ill. Ins. Rept.).

MISCELLANEOUS INSECTS

FIELD CRICKET (Acheta assimilis) - OKLAHOMA - Abundant around lights in Pontotoc County. (Bower).

CAMEL CRICKETS - NORTH DAKOTA - Infestations in basements many sections of State. (N.D. Ins. Rept.).

CLOVER MITES - NORTH DAKOTA - Several infestations in homes. (N.D. Ins. Rept.).

AN EARTHWORM MITE (Fuscuropoda agitans) - NORTH CAROLINA - Severe infestation in earthworm beds in Gates County. (Arts, Farrier).

EARWIGS - ALABAMA - Reports of invasions of dwellings numerous in Montgomery. Specimens submitted identified as Labidura riparia. (Lemons).

EUROPEAN EARWIG (Forficula auricularia) - NEW HAMPSHIRE - Increasing rapidly in numbers since first found in 1952; particularly in southeastern area of State. (Conklin). IDAHO - Attacks on ornamentals and invasion of houses in Twin Falls continue. (Gibson).

PAVEMENT ANT (Tetramorium caespitum) - CALIFORNIA - Heavy infestation annoying householders in Susanville, Lassen County. (Cal. Coop. Rept.).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - NORTH DAKOTA - Reports of infestations in homes increasing. (N. D. Ins. Rept.).

CORRECTIONS

CEIR 7(35):715 - In Khapra Beetle Survey, total number infested properties in ARIZONA and CALIFORNIA refers to cumulative totals since beginning of program.

CEIR 7(28):551 - Species of thrips on soybeans erroneously reported as Hercothrips fasciatus have been identified as Sericothrips variabilis by K. O'Neill.

ADDITIONAL NOTES

DELAWARE - CORN EARWORM, EUROPEAN CORN BORER and FALL ARMYWORM continue to infest late and mid-season corn in State. GREEN CLOVERWORM larvae continue active on soybean but much reduced. Adults numerous on lima beans generally. Adults of MEADOW SPITTLE-BUG and nymphs and adults of PLANT BUGS continue prevalent in New Castle County on alfalfa. STRAWBERRY SPIDER MITE continues principal pest of soybeans in State. CABBAGE LOOPER destructive to several truck crops and CABBAGE APHID unusually injurious to cabbage and broccoli at one location in New Castle County. Extensive damage by TOMATO RUSSET MITE noted one place in central Kent County, with light infestations some areas of Sussex County. FLEA BEETLES are numerous and destructive to late potatoes in Kent County. POTATO LEAFHOPPER common on beans in Kent and Sussex Counties and numerous on late potatoes in Kent County. Adult CUCUMBER BEETLES common on pumpkin-squash some areas of Kent and Sussex Counties and SPOTTED CUCUMBER BEETLE prevalent on late potatoes in central Kent County. SQUASH BUG common on pumpkin-squash some areas of Kent County. Second-generation ELM LEAF BEETLE larvae destructive in southwestern Kent and southern Sussex Counties and MIMOSA WEBWORM damage heavy on mimosa many places in State. (Milliron, Conrad). EUROPEAN RED MITE and Tetranychus schoenei increasing in apple orchards. (Kelsey).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Prod. orn.	Perid. marg.	Laphyg. frug.	Heliothis zea vires.	Protoparce sexta quin.	
ALABAMA (Counties)								
DeKalb 8/24,27,29	31				11	149	35	12
Lee 8/24, 27, 29	102	48		26	47	123	9	1
ARKANSAS								
Clarksville 8/13-24		2						
Fayetteville 8/24-30	21	3		3				
Hope 8/23-29	8	7		2				
*Morrillton 8/22-28	41	29		7				
Stuttgart 8/22-28	4	7		1				
Varner 8/21-27	112	74						
FLORIDA								
Gainesville 8/28						38	1	
Monticello 8/27			2			1		
Quincy 8/26	7	2	6			132	1	2
GEORGIA (Counties)								
Spalding 8/23-29	107	225	95	8	215	1166	16	34
Tift 8/20, 21, 23	358	13	165		946	654	24	84
ILLINOIS								
Urbana 8/22-28	54	27	119	26	2	27	56	
INDIANA (Counties)								
Orange 8/18-23	23	21	17	2		3	101	91
Tippecanoe 8/24-29	60	41	374	16		118	10	60
LOUISIANA								
Baton Rouge 8/17-30	252	48	640		1624	1334	56	
Curtis 8/15-28	242	28	178		840	644	112	
MISSISSIPPI								
Grenada 8/23-28	28	2	2			3		
State College 8/24-30	124	21	15		2	206	3	2
*Stoneville 8/23-29	228	584	541	3	642	1339	88	103
NEBRASKA (Counties)								
Box Butte 8/13-18	473	14		150	3	5	1	2
Lancaster 8/19-24	1000	576		4	66	151	74	32
Lincoln 8/15-21	597	27		51	27	26	6	12
Scotts Bluff 8/19-25	148	4			111	6		4
NORTH CAROLINA (Counties)								
Duplin 8/29	7	6	11			51	12	23
Johnston 8/29		7	6			32	2	2
SOUTH CAROLINA (Counties)								
Charleston 8/19-25	23	6	64		96	417	5	45
Florence 8/24-30	116	60	530	67	64	2269	61	122
Oconee 8/24-30	60	34	48	1	15	57	9	1
TENNESSEE (Counties)								
Blount 8/20-26	34	32	152	1	62	58	11	1
Cumberland	44	18	52		8	38	32	22
Greene	48	16	86	4	20	56	23	10
Johnson	256	208	120	44	16	124	2	
Knox	96	64	226		48	480	11	1
Lawrence	24	40	27			208	192	8
Madison	217	98	77			378	28	
Monroe	200	136	51		48	228	56	5
Robertson	28	52	40		20	224	17	7
TEXAS								
Waco 8/24-30	199		163	112				
WISCONSIN								
*Arlington 8/20-26	138				109	60		
DeForest 8/20-25	29					13		
*Theresa 8/20-25	124					12		

*Two traps Morrillton; 4 traps Stoneville; 2 traps Arlington; 3 traps Theresa.

A MITE NOT KNOWN TO OCCUR IN THE UNITED STATES

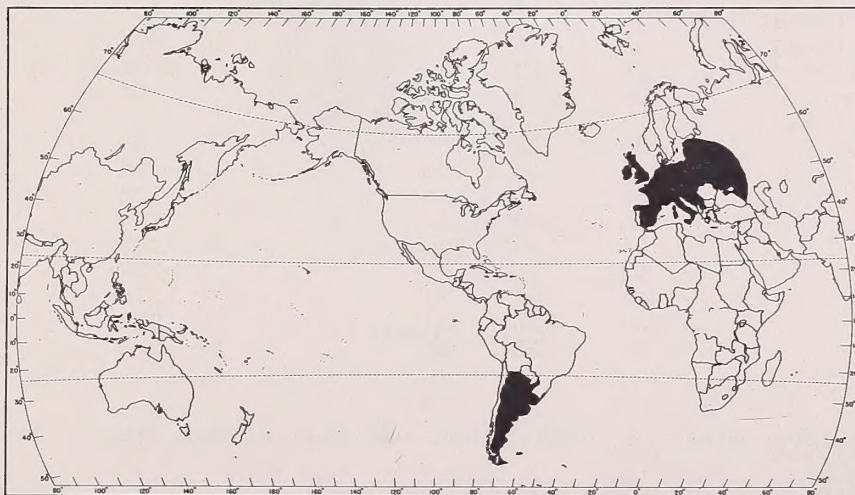
BEE MITE (Acarapis woodi Rennie)

Economic Importance: Acarine disease of adult honey bees was found to be caused by this scutacarid mite in England in 1920 and was called at that time "Isle of Wight Disease." It causes heavy losses of bees in various countries in Europe. Immediately preceding and following World War I, the disease practically decimated bees in England, and during World War II because of the disruption in the bee inspection service, it greatly increased and has continued to spread in Europe since that time. An infested colony steadily declines until it become unproductive or dies. Drones, workers, and queens may be attacked. If introduced into North America, the causative mite would be a particular menace because of the large number of colonies used for pollination purposes. In 1922, Congress invoked legislation known as the Honeybee Act that prohibits the importation of adult honey bees from all countries except countries found free of the mite and excepting bees imported by the U. S. Department of Agriculture for experimental or scientific purposes. The only country so far excepted is Canada.



Discolored Trachea from Infested Bee

Distribution: Acarine disease has been reported from many countries in Europe, and on the British Isles. It also occurs in Argentina, Uruguay and India.

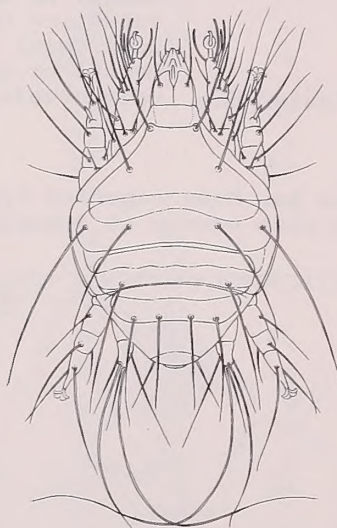


General Distribution of Acarapis woodi

Hosts: Only known hosts are Apis mellifera and A. indica.

Life History and Habits: The species has been divided into two subspecies, A. woodi woodi living within the tracheae and on the wing bases, and A. woodi externus living externally on the ventral side of the neck. No apparent injury is caused by A. w. externus. There are egg, larval, resting, and adult stages, but no 8-legged nymphal stage. The mites enter the anterior thoracic tracheae through the first pair of spiracles. They may spend their entire life within the tracheae puncturing the tracheal walls in feeding and causing them to turn brown or black. The tracheae of healthy bees are white. Entry into the tracheae takes place only in bees 8 to 9 days old or younger. Damage to the wing muscles is caused by the activity of the mites. On older bees the A. woodi woodi form attaches to the base of the wings, producing injury. When the bees die, the mite seeks a new host since it cannot long survive otherwise. The disease is transmitted by drifting of infested workers and by robber bees.

Description: The adult's body is divided into propodosoma and hysterosoma, and the hysterosoma is divided into sections by transverse sutures; the dorsal surface bearing long setae. The mites from bees may be easily recognized in that tarsi IV of the female have no claws or empodia, ending only in long whiplike setae; tarsi II and III have claws and membranous pulvilli; tarsi I have clawlike empodia but no claws. The larval stage is usually egg-shaped and elongated. The egg is unusually large measuring 110 to 128 microns in length and 54 to 67 microns in width. The adult female is 123 to 180 microns by 76 to 100 microns. Male is 96 to 102 by 62 microns. (Prepared in Plant Pest Survey Section in cooperation with other ARS agencies.) CEIR 7(36) 9-6-57



Adult Female

Figure of mite after Hirst, S. 1921. Ann. and Mag. of Nat. Hist. 8(42, 9th series):509-516.

Figure of acarine disease from Burnside, C. E. and Sturtevant, A. P. 1936. U. S. Dept. Agr. Cir. 392, 34 pp. (Photograph by Rennie).

